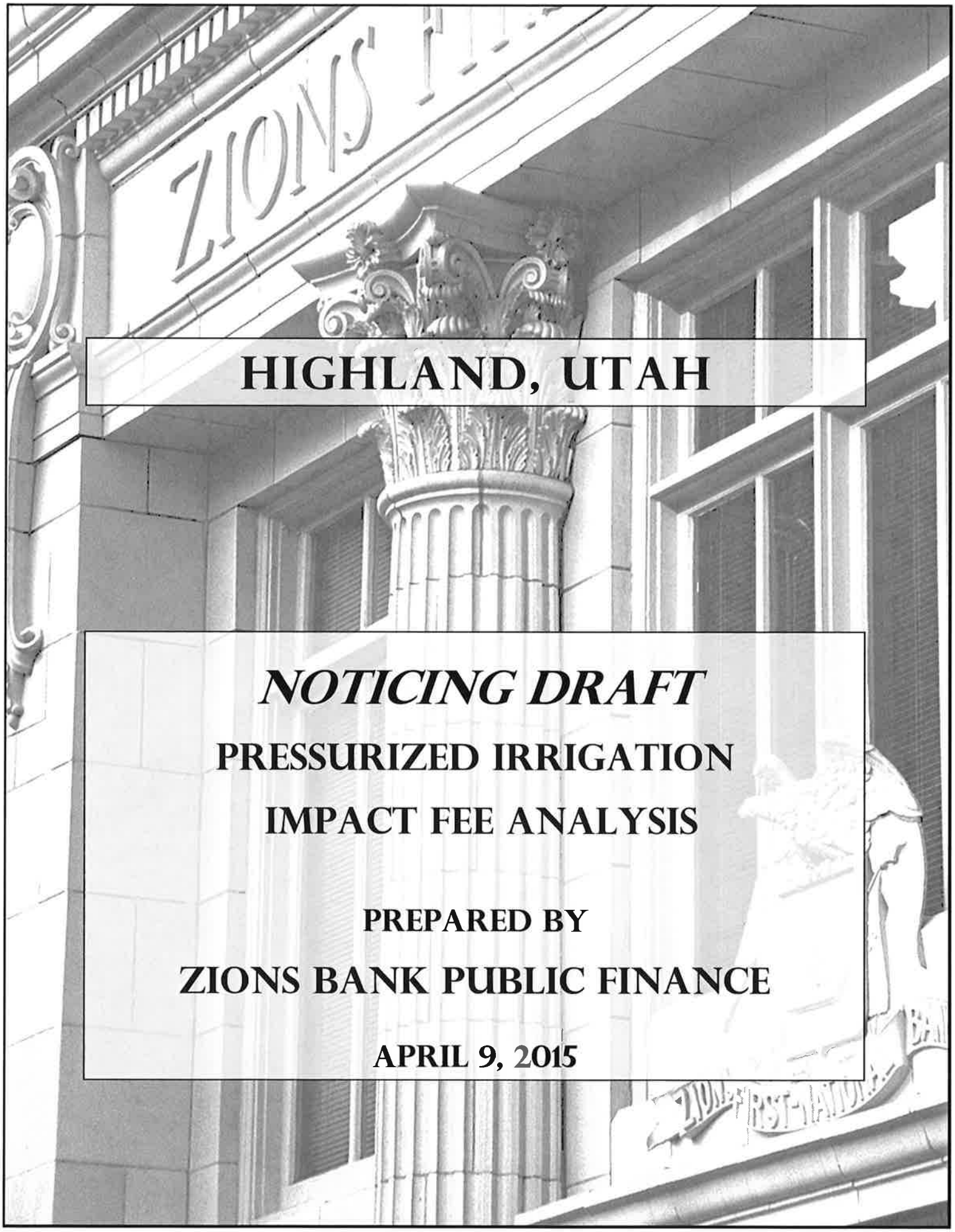


HIGHLAND, UTAH

NOTICING DRAFT

PRESSURIZED IRRIGATION IMPACT FEE ANALYSIS

PREPARED BY

ZIONS BANK PUBLIC FINANCE

APRIL 9, 2015

CONTENTS

EXECUTIVE SUMMARY

Zions Bank Public Finance (Zions) is pleased to provide Highland City (the City) with an update to the pressurized irrigation system (PI) impact fee. The following pages summarize the document and tables included. The intent is to provide a concise discussion of the calculation and identification of the maximum legal impact fee.

Growth Projections of Irrigated Acres

Population is important to impact fee and facility planning as population, and other factors, drive project needs and timings however, the City's increases in irrigated acres determines the sizing and future expansions of the pressurized irrigation system. The primary measurements of demand in this analysis are irrigated acres which are found by multiplying the total acres served by an average 38% percent of the total lot irrigated. Currently, the City had 4,198 total acres served and by 2024 it is anticipated that the City will grow to 4,841 total acres served. This results in 1,594 irrigated acres in the City today which will grow to 1,838 irrigated acres in the years.

Level of Service Definitions

The pressurized irrigation level of service per irrigated acre is defined as:

- Peak Day Demand (gpm) per Irrigated Acre: 5.29
- Instantaneous Demand (gpm) per Irrigated Acre: 12.74
- Storage per Irrigated Acre: 8,500

CALCULATED FEE

The impact fee is calculated by multiplying the impact fee per irrigated acre of $9,328.06 as found in Figure ES.1 by the irrigable acreage associated with different lot sizes found within Highland City. The final impact fees according to lot size are shown in Figure ES.2.

FIGURE ES.1: PRESSURIZED IRRIGATION FEE BY IRRIGATED ACRE

Component	Total Cost to Component	% That will Serve Ten Year Demand	Dollar Amount that will Serve Ten Year Demand	Ten Year Demand (Acres)	Cost per Acre
Storage Impact Fee					
Future 10 Year Capital Projects	$ 2,624,076	33%	$ 858,789	244	$ 3,520
Future Storage Related Debt to be Issued - INTEREST ONLY	346,019	33%	113,243	244	464
Existing Storage Projects	9,877,766	8.54%	844,026	244	3,459
Existing Storage Related Debt - INTEREST ONLY	1,037,588	8.54%	88,659	244	363
Storage Subtotal	**$ 13,885,449**		**$ 1,904,716**		**$ 7,806.21**
Distribution Impact Fee					
Future 10 Year Capital Projects	$ 664,769	24.80%	$ 164,830	244	$ 676
Future Distribution Related Debt to be Issued - INTEREST ONLY	190,621	24.80%	47,265	244	194
Existing Distribution Projects	1,770,947	5.59%	98,995	244	406
Existing Distribution Related Debt - INTEREST ONLY	215,398	5.59%	12,041	244	49
Distribution Subtotal	**$ 2,841,735**		**$ 323,131**		**$ 1,324.31**
Other Impact Fee					
Future 10 Year Capital Projects	$ 48,200	100%	$ 48,200	244	$ 198
Future Other Related Debt to be Issued - INTEREST ONLY	-	100%	-	244	-
Existing Other Projects	-	0.00%	-	244	-
Existing Other Related Debt - INTEREST ONLY	-	0.00%	-	244	-
Other Subtotal	**$ 48,200**		**$ 48,200**		**$ 197.54**
Professional Services/ Credits					
Unspent Impact Fee Funds	-	0.00%	$ -	244	$ -
Professional Services/ Credits	-	0%	-	244	-
Professional Services/Credits Subtotal	-		-		-
Total Impact Fee Per Acre	**$ 16,775,384**		**$ 2,276,047**		**$ 9,328.06**

FIGURE ES.2: HIGHLAND PRESSURIZED IRRIGATION FEE BY LOT SIZE

Lot Size	Acreage	% Irrigable	Proposed Fee
1/4 Acres	0.25	0.38	$ 886
1/2 Acres	0.5	0.38	1,772
3/4 Acres	0.75	0.38	2,658
1 Acres	1	0.38	3,545
1 1/2 Acres	1.5	0.38	5,317

FIGURE ES.3: NON-STANDARD FEE CALCULATION

Non-Standard Users Impact Fee Formula
Step 1: Identify Estimated Total Acreage of Proposed Development
Step 2: Multiply Total Acreage by the Percentage to be Irrigated
Step 3: Multiply Irrigated Acreage by Impact Fee per Acre of $9,328.06

An example of a non-standard impact fee calculation would be a multi-family complex that has a common area that includes 3,000 irrigable square feet. To calculate the fee, divide 3,000 by 43,560 to calculate the percent of an irrigable acre (3000/43560 = 6.8% of an irrigable acre). Then multiply the 6.8% by the cost per irrigable acre ($9,328.06) which will result in the impact fee of $642.43 for that particular development (6.8% x $9,328.06 = $642.43).

CHAPTER 1 PROJECT OVERVIEW

Highland City realizes that its rapid growth as well as changes to the Impact Fees Act require updates and review of its impact fees as well as its facility planning. A Pressurized Irrigation Impact Fee Facilities Plan was developed by Hansen Allen & Luce Engineers (Engineers) and will be adopted with this document. The following analysis has been created using the Highland City Water Impact Fee Facilities Plan, Zions Bank Public Finance and City staff provided information.

The goal of the Impact Fee Analysis is to calculate the maximum impact fee that may be assessed to new development and ensure the fee meets the requirements of the Impact Fees Act, Utah Code 11-36a-101 *et seq.* The sections and subsections of the Impact Fee Analysis will directly address the following items, required by the code:

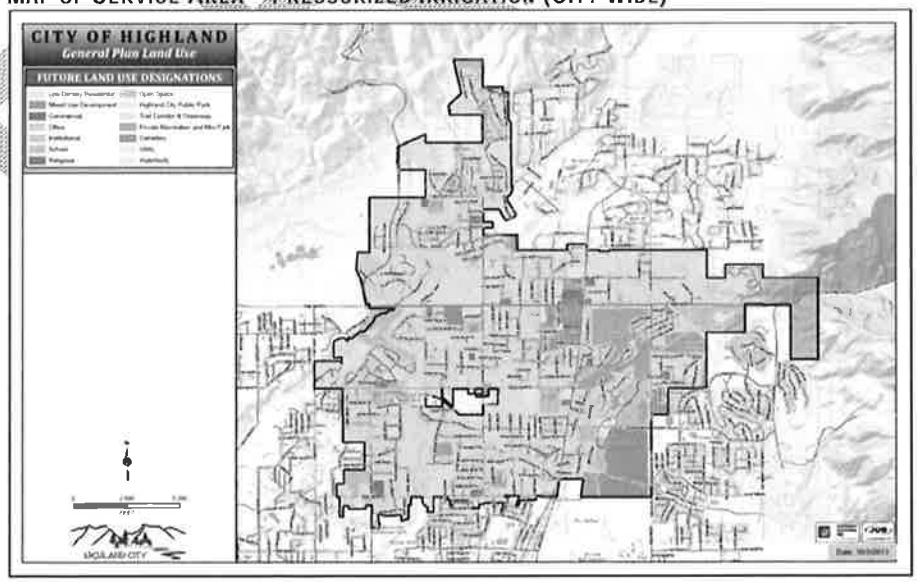
- Impact Fee Analysis Requirements (Utah Code 11-36a-304)
  - Identify Existing Capacity to serve growth
    - Proportionate Share Analysis
  - Identify the level of service
  - Identify the impact of future development on exisitng and future improvements
- Calculated Fee (Utah Code 11-36a-305)
- Certification (Utah Code 11-36a-306)

SERVICE AREA

Highland City is located on a bench near American Fork, Lehi and Alpine cities in northern Utah County. The City's pressurized irrigation system provides service to approximately 17,093 residents and relies on eight different sources for its water. Construction on the City's PI system began in 1997.

This Impact Fee Analysis calculates the base impact fees for one City-wide Service Area for pressurized irrigation. A map of the service area is included below.

FIGURE 1: MAP OF SERVICE AREA – PRESSURIZED IRRIGATION (CITY WIDE)



Growth Projections

Population is important to impact fee and facility planning as population, and other factors, drive project needs and timings however, the City's increases in irrigated acres determines the sizing and future expansions of the pressurized irrigation system. The primary measurements of demand in this analysis are irrigated acres which are found by multiplying the total acres served by an average 38% percent of the total lot irrigated. Currently, the City had 4,198 total acres served and by 2024 it is anticipated that the City will grow to 4,841 total acres served. This results in 1,594 irrigated acres in the City today which will grow to 1,838 irrigated acres in the years.

FIGURE 2: POPULATION GROWTH

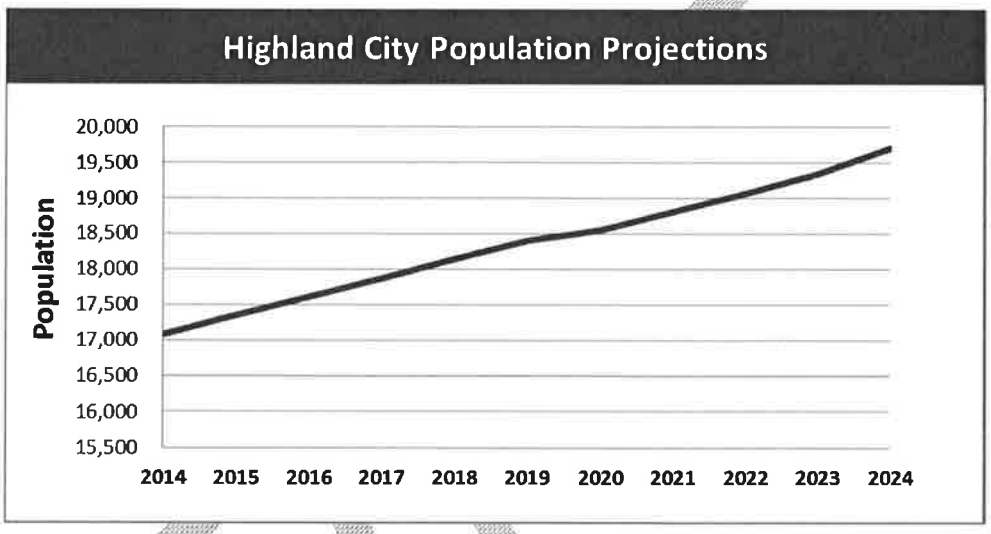


FIGURE 3: GROWTH IN TOTAL ACRES SERVED AND IRRIGATED ACRES

Year	Population	Growth in Total Acres	Irrigated Acres
2014	**17,093**	**4,198**	**1,594**
2015	17,355	4,258	1,618
2016	**17,617**	**4,317**	**1,641**
2017	17,879	4,377	1,663
2018	**18,141**	**4,437**	**1,686**
2019	18,403	4,496	1,709
2020	**18,551**	**4,556**	**1,730**
2021	18,813	4,627	1,758
2022	**19,075**	**4,699**	**1,785**
2023	19,337	4,770	1,813
2024	**19,713**	**4,841**	**1,838**
Buildout	**30,547**	**6,840**	**2,564**

There is modest growth still expected in Highland. Growth in population and in acreage to be irrigated will place increasing demand on the pressurized irrigation system. The Impact Fee Facilities Plan defines the improvements

that are required to maintain the current system and meet the needs of future growth. As the table above shows, growth in irrigated acreage is still occurring and the City must keep up with demand.

The Impact Fee Facilities Plan clearly shows the impact and consumption of current and future users of the pressurized irrigation system. The plan details the existing volumes of the components of the system, as well as the difference between what is used by existing and future users.

LEVEL OF SERVICE DEFINITIONS

The Impact Fee Facilities Plan has defined the current level of service in Highland City as:

The pressurized irrigation level of service per irrigated acre is defined as:

- Peak Day Demand (gpm) per Irrigated Acre: 5.29
- Instantaneous Demand (gpm) per Irrigated Acre: 12.74
- Storage per Irrigated Acre: 8,500

CHAPTER 2 EXISTING AND FUTURE CAPITAL PROJECTS

EXISTING INFRASTRUCTURE AND CAPACITY TO SERVE NEW GROWTH (BUY-IN COMPONENT)

As mentioned, much of the pressurized irrigation system has been constructed with bonds. The City provided a list of the projects funded. Hansen Allen & Luce completed an analysis to identify the capacity of the bond funded projects by functional component that will serve new growth. The components of the system (storage and distribution) have been analyzed separately and have their own levels of service and future capacities. Actual water rights and shares are provided to the City at the time of development so there are no source related impact fee qualifying projects to consider at this time.

Storage

The total PI storage capacity is 50.4 Acre Feet. All ponds were constructed since 1997 and are in good condition. The Upper/Lower ponds do not have excess capacity and, given that the City has planned some pond expansion projects, the Northwest pond will have sufficient excess capacity to serve the City through buildout. During the impact fee horizon projects to increase the capacity of the Upper and Lower ponds to serve future growth have been included in the impact fee calculation.

Distribution

The City's pressurized irrigation system consists of pipes ranging from 4" to 30". The majority of the pipes are 8" pipes. All pipes within the system have been constructed since 1997 and are in good condition with capacity to serve growth through buildout.

IMPACT FEE FACILITIES PLAN – FUTURE CAPITAL PROJECTS

Hansen Allen & Luce has carefully reviewed the City's existing PI system and has identified several projects that need to be constructed within the 10 year planning horizon. These projects will ensure the pressurized irrigation system has the capacity to meet growth needs and were adapted by HAL from the City's 2009 Master Plan. The table below summarizes the cost for each project and identifies the portion that can be attributable to 10 year growth.

FIGURE 4: FUTURE CAPITAL PROJECTS

Project Name	Year to be Constructed	2014 Cost	Construction Cost with Inflation	% to Existing / Project Level	% Impact Fee Qualifying - 10 Year	% Impact Fee Qualifying - Beyond 10 Year	10 Year Impact Fee Qualifying Cost	Impact Fee Qualifying Beyond 10 Years	Non Impact Fee Qualifying
Storage									
NW Pond Expansion (45 AC-ft)	2020	$ 1,437,500	$ 1,828,901	0%	39%	61%	$ 715,657	$ 1,113,244	$ -
Lower Pond Expansion (5 AC-ft)	2020	625,000	795,175	82%	18%	0%	143,131	-	652,043
Storage Subtotal		**$ 2,062,500**	**$ 2,624,076**				**$ 858,789**	**$ 1,113,244**	**$ 652,043**
Distribution									
MP #13 Connection	2020	$ 249,953	$ 318,009	0.0%	24.8%	75.2%	$ 78,851	$ 239,158	$ -
MP #12 PRV and WL	2020	272,550	346,760	0.0%	24.8%	75.2%	85,980	260,780	-
Distribution Subtotal		**$ 522,503**	**$ 664,769**				**$ 164,830**	**$ 499,939**	**$ -**
Other- Professional Services									
Impact Fee Facilities Plan	2015	$ 9,995	$ 10,707	0.0%	100.0%	0.0%	$ 10,707	$ -	$ -
Master Plan	2015	30,000	32,137	0.0%	100.0%	0.0%	32,137	-	-
Impact Fee Analysis	2015	5,000	5,356	0.0%	100.0%	0.0%	5,356	-	-
Other Subtotal		**$ 44,995**	**$ 48,200**				**$ 48,200**	**$ -**	**$ -**
Ten Year Total		**$ 2,629,998**	**$ 3,337,045**				**$ 1,071,819**	**$ 1,613,183**	**$ 652,043**

FINANCE MECHANISMS

Outstanding Debt

The Utah Impact Fees Act does allow for the inclusion of outstanding principal and interest costs of existing improvements funding by bond proceeds that still have capacity to serve new growth. Currently, the City has one outstanding debt issue related to the PI system, the 2009 Revenue Refunding Bonds. The 2009 bonds refunded the 1998 revenue refunding bonds which had been issued to refund the original 1996 debt issue. The 1996 debt issue was used to fund the construction of the City's pressurized irrigation system. Approximately 9% of the 2009 bond bend relates to the storage system and 6% to distribution. Those portions of the cost have been included in the impact fee calculation.

It should be noted that the City had a note to Provo River Water Users Association and an assessment to the Highland Water Conservancy District outstanding both related to the Provo river water canal enclosure project. Both the note and the assessment are paid for by the City's General Fund and are not funded with pressurized irrigation user rates or impact fees. Therefore, at this time, it is not necessary to consider this outstanding debt when calculating the pressurized irrigation impact fee.

Future Debt

In order to fund the future projects needed in the 10 year horizon, a future bond issue is anticipated in approximately 2020. The bond is expected to be issued for approximately $1.5M as shown in Figure 5. Approximately 31% of this bond will serve ten year growth in demand and has been included in the impact fee calculation.

FIGURE 5: 2020 PRESSURIZED IRRIGATION REVENUE BOND

	Principal	Interest	Total D/S	
2021	$77,000	$ 61,480	$ 138,480	**2021**
2022	80,000	58,400	138,400	**2022**
2023	83,000	55,200	138,200	**2023**
2024	86,000	51,880	137,880	**2024**
2025	90,000	48,440	138,440	**2025**
2026	93,000	44,840	137,840	**2026**
2027	97,000	41,120	138,120	**2027**
2028	101,000	37,240	138,240	**2028**
2029	105,000	33,200	138,200	**2029**
2030	109,000	29,000	138,000	**2030**
2031	114,000	24,640	138,640	**2031**
2032	118,000	20,080	138,080	**2032**
2033	123,000	15,360	138,360	**2033**
2034	128,000	10,440	138,440	**2034**
2035	133,000	5,320	138,320	**2035**
Total	**$ 1,537,000**	**$ 536,640**	**$ 2,073,640**	

CHAPTER 3 PROPORTIONATE SHARE ANALYSIS

The Impact Fees Act requires that an impact fee analysis estimate the proportionate share of the costs for existing capacity that will be recouped; and the costs of impacts on system improvements that are reasonably related to the new development activity.

Highland must keep up with growing demand and must begin building infrastructure in order to support growth and economic development in the area. The IFFP clearly defines what projects are growth related, repair and replacement, or pipe upsizing (the upsizing may include some element of growth). The projects are detailed later in the Future Capital Projects section.

Part of the proportionate share analysis is a consideration of the manner of funding existing public facilities. Historically the City has funded existing infrastructure through several different funding sources including:

- General Fund Revenues
- User Fees
- Grants
- Bond Proceeds
- Developer Exactions
- Impact Fees

In calculating the buy-in (for existing infrastructure capacity) component of this analysis no grant funded infrastructure has been included. The infrastructure included in the analysis was all bond funded projects. Bond funded projects are impact fee eligible expenses. In order to ensure fairness to existing users, impact fees are an appropriate means of funding future capital infrastructure because using impact fees places a burden on future users that is equal to the burden that was borne in the past by existing users. (Utah Impact Fees Act, 11-36a-304(2) (c) (d))

Just as the existing infrastructure was funded through different means it is required by the Impact Fees Act to evaluate all means of funding future capital. There are positive and negative aspects to the various forms of funding. It is important to evaluate each.

General Fund/User Rates

The general fund and user rates have both been funded in one form or another by existing users. It would be an additional burden to existing users to use this revenue source to fund future capital to meet the needs of future users. This is not an equitable policy and can place too much stress on the tight budgets of the general fund and other user rate funds.

Bond Proceeds

Based on lack of impact fee reserves and cash funding available for the projects needed for the future, the City anticipates issuing debt for capital projects. It is important to note that it is anticipated the impact fees will fund the eligible portions of the proposed debt.

Impact Fees

Impact fees are a fair and equitable means of providing infrastructure for future development. They provide a rational nexus between the costs borne in the past and the costs required in the future. The Impact Fees Act ensures that

future development is not paying any more than what future growth will demand. Existing users and future users receive equal treatment; therefore impact fees are the optimal funding mechanism for future growth related capital needs.

Developer Credits

If projects included in the Impact Fee Facilities Plan (or a project that will offset the demand for a system improvement that is listed in the IFFP) are constructed by developers, that developer is entitled to a credit against impact fees owed. (Utah Impact Fees Act, 11-36a-304(2) (f)).

Other

In this particular analysis, there is also a credit for unspent impact fee revenues collected in the past. The current impact fee fund balance will be credited against the impact fee, if applicable.

CALCULATED FEE

The impact fees have been calculated with all the above considerations for a City-Wide PI Service Area. The fee per irrigated acre is $9,328. The table below calculates the impact fee according to various lot sizes given the fee per irrigated acre and an average irrigable area of 38% of the total lot size.

FIGURE 6: HIGHLAND PRESSURIZED IRRIGATION IMPACT FEE BY LOT SIZE

Lot Size	Acreage	% Irrigable	Proposed Fee
1/4 Acres	0.25	0.38	$ 886
1/2 Acres	0.5	0.38	1,772
3/4 Acres	0.75	0.38	2,658
1 Acres	1	0.38	3,545
1 1/2 Acres	1.5	0.38	5,317

At the City's discretion a non-standard impact fee may be calculated for a particular development that does not fit the typical calculation of lot size and irrigable area shown above. The steps to calculate a non-standard impact fee are included in the table below and an example of how to use the non-standard formula is described in the following paragraph.

FIGURE 7: NON-STANDARD FEE CALCULATION

Non-Standard Users Impact Fee Formula
Step 1: Identify Estimated Total Acreage of Proposed Development
Step 2: Multiply Total Acreage by the Percentage to be Irrigated
Step 3: Multiply Irrigated Acreage by Impact Fee per Acre of $9,328.06

An example of a non-standard impact fee calculation would be a multi-family complex that has a common area that includes 3,000 irrigable square feet. To calculate the fee, divide 3,000 by 43,560 to calculate the percent of an irrigable acre (3000/43560 = 6.8% of an irrigable acre). Then multiply the 6.8% by the cost per irrigable acre ($9,328.06) which will result in the impact fee of $642.43 for that particular development (6.8% x $9,328.06 = $642.43).

In accordance with Utah Code Annotated, 11-36a-306(2), Zions Public Finance, Inc. (ZPFi) makes the following certification:

ZPFi certifies that the attached impact fee analysis:

1. includes only the cost of public facilities that are:
    a. allowed under the Impact Fees Act; and
    b. actually incurred; or
    c. projected to be incurred or encumbered within six years after the day on which each impact fee is paid;
2. does not include:
    a. costs of operation and maintenance of public facilities;
    b. cost of qualifying public facilities that will raise the level of service for the facilities, through impact fees, above the level of service that is supported by existing residents;
    c. an expense for overhead, unless the expense is calculated pursuant to a methodology that is consistent with generally accepted cost accounting practices and the methodological standards set forth by the federal Office of Management and Budget for federal grant reimbursement;
3. offset costs with grants or other alternate sources of payment; and
4. complies in each and every relevant respect with the Impact Fees Act.

Zions Public Finance, Inc. makes this certification with the following caveats:

1. All of the recommendations for implementations of the Impact Fee Facilities Plans (IFFPs) made in the IFFP documents or in the impact fee analysis documents are followed in their entirety by Highland City staff and elected officials.
2. If all or a portion of the IFFPs or impact fee analyses are modified or amended, this certification is no longer valid.
3. All information provided to Zions Public Finance, Inc., its contractors or suppliers is assumed to be correct, complete and accurate. This includes information provided by Highland City and outside sources. Copies of letters requesting data are included as appendices to the IFFPs and the impact fee analysis.

Dated: April 9, 2015

ZIONS PUBLIC FINANCE, INC.

APPENDICES

Notice Date & Time: September 11, 2014 | 7:00 AM - 11:59 PM
Description/Agenda: Notice Title: Notice of Intent to Create Impact Fee Facilities Plans and Amended Impact Fee Written Analyses

NOTICE OF INTENT TO CREATE IMPACT FEE FACILITIES PLANS AND AMENDED IMPACT FEE WRITTEN
ANALYSES

Highland City, a municipality of the State of Utah, located in Utah County, Utah intends to commence the preparation of independent and comprehensive Impact Fee Facilities Plans and Written Impact Fee Analyses for the services of secondary water, sanitary sewer, parks, recreation and trails, roads and public safety. Therefore, pursuant to the provisions of 11-36a-501 and 503 of the Utah Code, as amended 2011, notice is hereby provided to you of the intent of Highland City to create an Impact Fee Facilities Plans and amend Highland City's Impact Fee Written Analyses. The location(s) that will be included in the Impact Fee Facilities Plans and Impact Fee Analyses are all areas within the legal Highland City limits and the declared annexation areas of Highland City.

BY ORDER OF THE CITY COUNCIL OF HIGHLAND CITY

Public Notice Website http://www.utah.gov/pmn/sitemap/notice/231435.html

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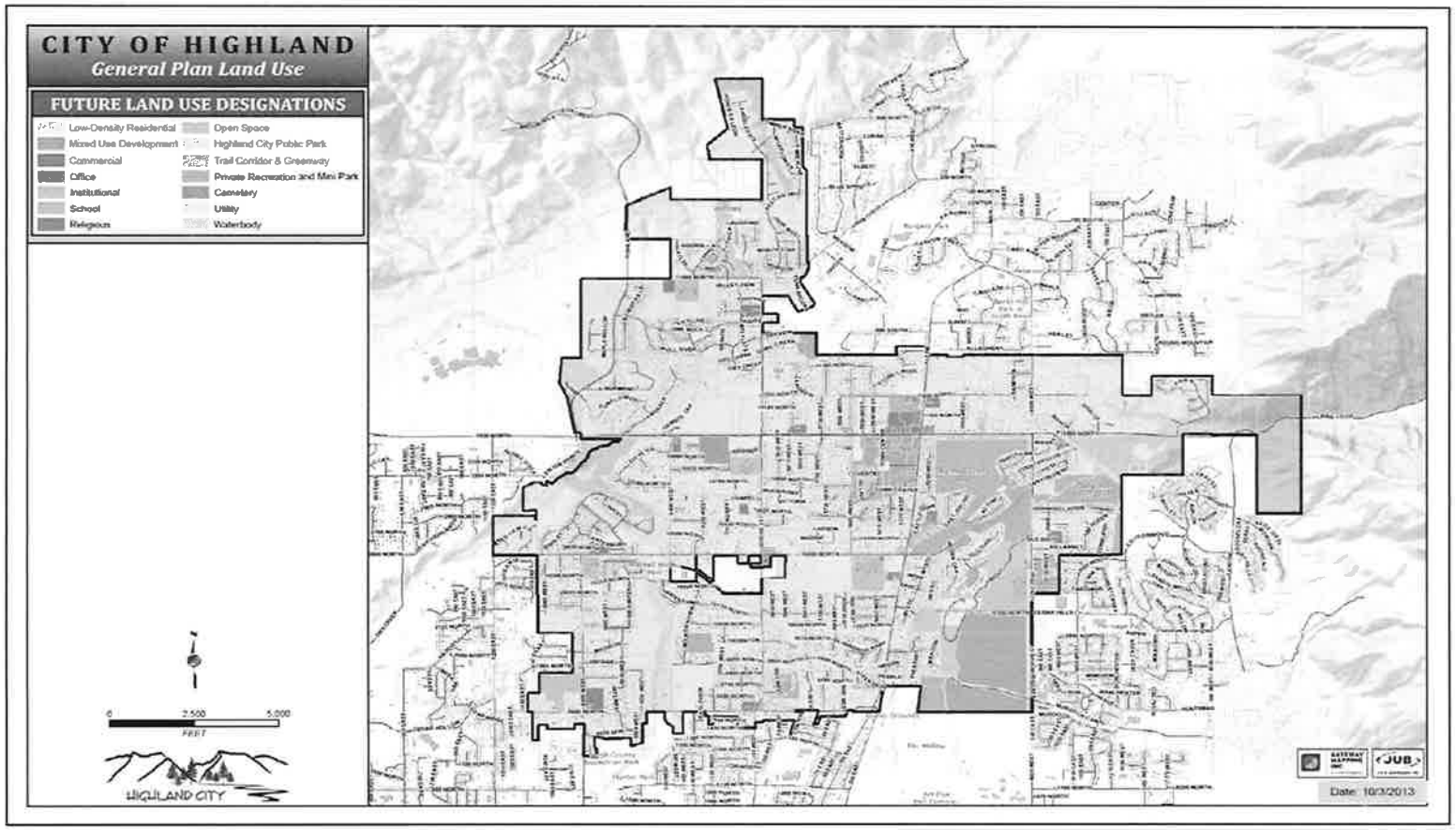
APPENDIX A: MAP OF IMPACT FEE SERVICE AREA



Appendix B: Peak Day Demand Projections for Secondary Water

CURRENT AND FUTURE ACRES FOR THE SECONDARY WATER SERVICE AREA

TABLE B.1: CURRENT AND FUTURE SECONDARY WATER ACRES

Year	Population	Growth in Total Acres	Irrigated Acres
2014	**17,093**	**4,198**	**1,594**
2015	17,355	4,258	1,618
2016	17,617	4,317	1,641
2017	17,879	4,377	1,663
2018	18,141	4,437	1,686
2019	18,403	4,496	1,709
2020	18,551	4,556	1,730
2021	18,813	4,627	1,758
2022	19,075	4,699	1,785
2023	19,337	4,770	1,813
2024	**19,713**	**4,841**	**1,838**
Buildout	**30,547**	**6,840**	**2,564**

TABLE B.2: SECONDARY WATER DEMAND

Secondary Water Acres	
Current Irrigated Acres	1,594
Buildout Irrigated Acres	2,564
Total Undeveloped Irrigated Acres	970
% Undeveloped	38%
10 Year Additional Irrigated Acres	**244**

APPENDIX C: PRESSURIZED IRRIGATION 10 YEAR CAPITAL PROJECTS

TABLE C.1: SECONDARY WATER CAPITAL PROJECTS

Inflation Rate* **3.5%**

Project Name	Year to be Constructed	2014 Cost	Construction Cost with Inflation	% to Existing / Project Level	% Impact Fee Qualifying - 10 Year	% Impact Fee Qualifying - Beyond 10 Year	10 Year Impact Fee Qualifying Cost	Impact Fee Qualifying Beyond 10 Years	Non Impact Fee Qualifying
Storage									
Upper Pond Expansion (11.5 AC-ft)	2020	$ 1,437,500	$ 1,828,901	0%	39%	61%	$ 715,657	$ 1,113,244	$ -
Lower Pond Expansion (5 AC-ft)	2020	625,000	795,175	82%	18%	0%	143,131	-	652,043
Storage Subtotal		**$ 2,062,500**	**$ 2,624,076**				**$ 858,789**	**$ 1,113,244**	**$ 652,043**
Distribution									
MP #13 Connection	2020	$ 249,953	$ 318,009	0.0%	24.8%	75.2%	$ 78,851	$ 239,158	$ -
MP #12 PRV and WL	2020	272,550	346,760	0.0%	24.8%	75.2%	85,980	260,780	-
Distribution Subtotal		**$ 522,503**	**$ 664,769**				**$ 164,830**	**$ 499,939**	**$ -**
Other- Professional Services									
Impact Fee Facilities Plan	2015	$ 9,995	$ 10,707	0.0%	100.0%	0.0%	$ 10,707	$ -	$ -
Master Plan	2015	30,000	32,137	0.0%	100.0%	0.0%	32,137	-	-
Impact Fee Analysis	2015	5,000	5,356	0.0%	100.0%	0.0%	5,356	-	-
Other Subtotal		**$ 44,995**	**$ 48,200**				**$ 48,200**	**$ -**	**$ -**
Ten Year Total		**$ 2,629,998**	**$ 3,337,045**				**$ 1,071,819**	**$ 1,613,183**	**$ 652,043**

Table C.2: Total Capital Projects by Year

Project	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Storage											
Upper Pond Expansion (11.5 AC-ft)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,828,901	$ -	$ -	$ -
Lower Pond Expansion (5 AC-ft)	-	-	-	-	-	-	-	795,175	-	-	-
Storage Subtotal	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 795,175	$ -	$ -	$ -
Distribution											
MP #13 Connection	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 318,009	$ -	$ -	$ -
MP #12 PRV and WL	-	-	-	-	-	-	-	346,760	-	-	-
Distribution Subtotal	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 664,769	$ -	$ -	$ -
Other- Professional Services											
Impact Fee Facilities Plan	$ -	$ -	$ 10,707	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Master Plan	-	-	32,137	-	-	-	-	-	-	-	-
Impact Fee Analysis	-	-	5,356	-	-	-	-	-	-	-	-
Other Subtotal	$ -	$ -	$ 48,200	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Capital Projects	**$ -**	**$ -**	**$ 48,200**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,459,944**	**$ -**	**$ -**	**$ -**

Table C.3: Impact Fee Qualifying Capital Projects WITHIN TEN YEARS by Year

Project	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Storage											
Upper Pond Expansion (11.5 AC-ft)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 715,657	$ -	$ -	$ -
Lower Pond Expansion (5 AC-ft)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 143,131	$ -	$ -	$ -
Storage Subtotal	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 143,131	$ -	$ -	$ -
Treatment											
MP #13 Connection	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 78,851	$ -	$ -	$ -
MP #12 PRV and WL	-	-	-	-	-	-	-	85,980	-	-	-
Distribution Subtotal	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 78,851	$ -	$ -	$ -
Other- Professional Services											
Impact Fee Facilities Plan	$ -	$ -	$ 10,707	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Master Plan	-	-	32,137	-	-	-	-	-	-	-	-
Impact Fee Analysis	-	-	5,356	-	-	-	-	-	-	-	-
Other Subtotal	$ -	$ -	$ 48,200	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Impact Fee Qualifying - 10 Year Grov	**$ -**	**$ -**	**$ 48,200**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 221,982**	**$ -**	**$ -**	**$ -**

Table C.4: Impact Fee Qualifying Capital Projects BEYOND TEN YEARS by Year

Project	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Storage											
Upper Pond Expansion (11.5 AC-ft)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,113,244	$ -	$ -	$ -
Lower Pond Expansion (5 AC-ft)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Storage Subtotal	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,113,244	$ -	$ -	$ -
Distribution											
MP #13 Connection	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 239,158	$ -	$ -	$ -
MP #12 PRV and WL	-	-	-	-	-	-	-	260,780	-	-	-
Distribution Subtotal	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 239,158	$ -	$ -	$ -
Other- Professional Services											
Impact Fee Facilities Plan	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Master Plan	-	-	-	-	-	-	-	-	-	-	-
Impact Fee Analysis	-	-	-	-	-	-	-	-	-	-	-
Other Subtotal	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Impact Fee Qualifying - Beyond Ten	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,352,403**	**$ -**	**$ -**	**$ -**

Table C.5: Non Impact Fee Qualifying Capital Projects by Year

Project	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Storage											
Upper Pond Expansion (11.5 AC-ft)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Lower Pond Expansion (5 AC-ft)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 652,043	$ -	$ -	$ -
Storage Subtotal	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 652,043	$ -	$ -	$ -
Distribution											
MP #13 Connection	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
MP #12 PRV and WL	-	-	-	-	-	-	-	-	-	-	-
Distribution Subtotal	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Other- Professional Services											
Impact Fee Facilities Plan	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Master Plan	-	-	-	-	-	-	-	-	-	-	-
Impact Fee Analysis	-	-	-	-	-	-	-	-	-	-	-
Other Subtotal	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Non Impact Fee Qualifying	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 652,043**	**$ -**	**$ -**	**$ -**

Appendix D: Historic Asset Data

Table D.1: Historic Asset Data Summary

System	Storage	Distribution	Other	Total Cost
NW Pond	$ 587,468			$ 587,468
11800 PS & Well		1,427,049		1,427,049
Lower PS		206,336		206,336
Hogs Hollow PS	231,556			231,556
System Less Upper Pond	8,460,271			8,460,271
Upper Pond (No Capacity)	598,471			598,471
18" Transmission Line		137,562		137,562
Totals	**$ 9,877,766**	**$ 1,770,947**	**$ -**	**$ 11,648,713**

Table D.2: Storage Historic Asset Data Summary

System	% to Existing / Project Level	% Impact Fee Qualifying - 10 Year	% Impact Fee Qualifying - Beyond 10 Year	Total Cost	Existing / Non-Qualifying Cost	10 Year Impact Fee Qualifying Cost	Impact Fee Qualifying Beyond 10 Years
NW Pond	32%	5%	63%	$ 587,468	$ 190,281	$ 29,173	$ 368,014
System Less Upper Pond	62%	9%	29%	8,460,271	5,253,724	795,068	2,411,479
Upper Pond (No Capacity)	100%	0%	0%	598,471	598,471	-	-
Totals				**$ 9,646,210**	**$ 6,042,476**	**$ 824,241**	**$ 2,779,494**

Table D.3: Distribution Historic Asset Data Summary

System	% to Existing / Project Level	% Impact Fee Qualifying - 10 Year	% Impact Fee Qualifying - Beyond 10 Year	Total Cost	Existing / Non-Qualifying Cost	10 Year Impact Fee Qualifying Cost	Impact Fee Qualifying Beyond 10 Years
11800 PS & Well	32%	5%	63%	$ 1,427,049	$ 462,221	$ 70,865	$ 893,963
Lower PS	62%	9%	29%	206,336	128,132	19,391	58,813
Hogs Hollow PS	42%	6%	52%	231,556	96,877	14,853	119,826
18" Transmission Line	32%	5%	63%	137,562	44,556.36	6,831	86,175
Totals				**$ 2,002,503**	**$ 731,787**	**$ 111,939**	**$ 1,158,777**

Table D.4: Qualifying and Non-Qualifying Asset Summary

	Storage	Distribution	Other	Total Cost
Ten Year	9%	6%	0%	0%
Non-Qualifying	91%	94%	100%	0%
Totals	**100%**	**100%**	**100%**	**0%**

Appendix E: Historic City Asset Data

Table E.1: Detailed Asset List

	Description	Owning System	Type	Service Life	In Service	Funding	Qualifying	Function	Original Cost
2	PRESSURE IRRIGATION LAND	PI	System	30.00	Yes	City	Qualifying	Land	$226,000
3	PI LAND - NORTHWEST	PI	System	30.00	Yes	City	Qualifying	Land	$51,450
4	PI PUMP STATION	PI	System	30.00	Yes	City	Qualifying	Building	$321,887
5	DRY CREEK PUMPHOUSE & WELL	PI	System	30.00	Yes	City	Qualifying	Building	$313,115
6	HOG HOLLOW PI BOOSTER STATION	PI	System	30.00	Yes	City	Qualifying	Building	$28,665
7	P.I. WELL & POND	PI	System	30.00	Yes	City	Qualifying	Storage	$587,468
8	NW - PI POND	PI	System	30.00	Yes	City	Qualifying	Storage	$211,019
9	WINDOWS UPGRADE	PI	Equipment	10.00	Yes	City	Non-Qualifying	Equipment	$9,375
10	WHEELER POWER SYSTEM	PI	Equipment	10.00	Yes	City	Non-Qualifying	Equipment	$22,764
11	VERMEER CHIPPER	PI	Equipment	10.00	Yes	City	Non-Qualifying	Equipment	$5,614
12	SCADA SYSTEM	PI	Equipment	10.00	Yes	City	Non-Qualifying	Equipment	$7,625
13	BIG TEX TRAILER (Partial Amount)	PI	Equipment	10.00	Yes	City	Non-Qualifying	Equipment	$3,280
14	07 FORD PICKUP (Partial Amount)	PI	Equipment	10.00	Yes	City	Non-Qualifying	Equipment	$7,241
15	BOOSTER PUMPS 11800 NORTH	PI	Equipment	10.00	Yes	City	Non-Qualifying	Equipment	$8,330
16	ELEMENTS WORK ORDER SYSTEM	PI	Equipment	10.00	Yes	City	Non-Qualifying	Equipment	$5,328
17	SCADA UPGRADE	PI	Equipment	10.00	Yes	City	Non-Qualifying	Equipment	$62,046
18	SCADA SYSTEM UPGRADE	PI	Equipment	10.00	Yes	City	Non-Qualifying	Equipment	$16,325
19	WATER STOCK	PI	System	30.00	Yes	City	Qualifying	Source	$600
20	WATER STOCK	PI	System	30.00	Yes	City	Qualifying	Source	$9,768
21	WATER STOCK	PI	System	30.00	Yes	City	Qualifying	Source	$3,000
22	WATER STOCK	PI	System	30.00	Yes	City	Qualifying	Source	$1,599,592
23	WATER STOCK	PI	System	30.00	Yes	City	Qualifying	Source	$196,500
24	WATER STOCK	PI	System	30.00	Yes	City	Qualifying	Source	$201,000
25	WATER STOCK	PI	System	30.00	Yes	City	Qualifying	Source	$222,400
26	WATER STOCK	PI	System	30.00	Yes	City	Qualifying	Source	$9,054,424
27	WATER STOCK	PI	System	30.00	Yes	City	Qualifying	Source	$27,140
28	WATER STOCK CONTRIBUTED	PI	System	30.00	Yes	City	Qualifying	Source	$1,386,000
29	DC - WATER CONTRIBUTED	PI	System	30.00	Yes	Developer	Non-Qualifying	Source	$1,670,907
30	WATER PURCHASED BY CITY	PI	System	30.00	Yes	City	Qualifying	Source	$29,337
31	DC - WATER CONTRIBUTED	PI	System	30.00	Yes	Developer	Non-Qualifying	Source	$4,555,040
32	DEVELOPER CONT. - WATER	PI	System	30.00	Yes	Developer	Non-Qualifying	Source	$126,008
33	WATER PURCHASED	PI	System	30.00	Yes	City	Qualifying	Source	$66,600
34	WATER PURCHASES	PI	System	30.00	Yes	City	Qualifying	Source	$285,273
35	WATER SHARE PURCHASES	PI	System	30.00	Yes	City	Qualifying	Source	$76,600
36	CONTAINED WATER SHARES 102.97 FULL	PI	System	30.00	Yes	City	Qualifying	Source	$322,691
37	CONTAINTED WATER SHARES 194.35 LATE	PI	System	30.00	Yes	City	Qualifying	Source	$293,142
38	HIGHLAND CONSV, 1956.1 SAVED & 4 CONTRIBUTED	PI	System	30.00	Yes	City	Qualifying	Source	$1,566,336
39	WATER SHARE PURCHASE	PI	System	30.00	Yes	City	Qualifying	Source	$8,988
40	B.THOMPSON WATER SHARE PURCHASE	PI	System	30.00	Yes	City	Qualifying	Source	$17,748
41	PLANNING COSTS	PI	System	30.00	Yes	City	Qualifying	Distribution	$12,000
42	DESIGN COSTS	PI	System	30.00	Yes	City	Qualifying	Distribution	$550,809
43	CONSTRUCTION ENGINEERING AND MANAGEMENT COSTS	PI	System	30.00	Yes	City	Qualifying	Distribution	$212,145
44	CONSTRUCTION COSTS	PI	System	30.00	Yes	City	Qualifying	Distribution	$8,141,493
45	LEGAL COSTS	PI	System	30.00	Yes	City	Qualifying	Distribution	$36,724
46	FINANCING COSTS	PI	System	30.00	Yes	City	Qualifying	Distribution	$305,571
47									
48									
49									
50									
51									
52									
53									
54									
55									
									$32,665,360.06
									$32,665,360.06

Appendix E Continued: Historic City Asset Data

E.2 :Distribution System Assets

Description	Size	Quantity (Linear Feet)
Pipeline	4 inch	62,560
Pipeline	6 inch	40,690
Pipeline	8 inch	18,430
Pipeline	10 inch	9,315
Pipeline	12 inch	7,755
Pipeline	14 inch	7,355
Pipeline	16 inch	2,685
Pipeline	18 inch	4,450
Pipeline	20 inch	11,990
Pipeline	24 inch	10,925
Pipeline	30 inch	16,416
Pipeline	36 inch	64
Pipeline	42 inch	52
Pipeline	48 inch	407
Total Linear Feet		**193,094**

APPENDIX F: OUTSTANDING WATER DEBT

Table F.1: 2009 Revenue Refunding Bonds Existing Annual Debt Payments

	Principal	Interest	Total D/S	
2010	$ 255,000	$ 172,549	$ 427,549	**2010**
2011	280,000	146,744	426,744	**2011**
2012	290,000	139,044	429,044	**2012**
2013	300,000	131,069	431,069	**2013**
2014	305,000	122,069	427,069	**2014**
2015	315,000	112,538	427,538	**2015**
2016	325,000	102,300	427,300	**2016**
2017	340,000	90,113	430,113	**2017**
2018	350,000	76,513	426,513	**2018**
2019	365,000	62,513	427,513	**2019**
2020	380,000	47,913	427,913	**2020**
2021	395,000	32,713	427,713	**2021**
2022	410,000	16,913	426,913	**2022**
Total	**$ 4,310,000**	**$ 1,252,986**	**$ 5,562,986**	

APPENDIX G: FUTURE WATER DEBT

Table G.1: Series 2020 Projected Future Annual Debt Payments

	Principal	Interest	Total D/S	
2021	$77,000	$ 61,480	$ 138,480	**2021**
2022	80,000	58,400	138,400	**2022**
2023	83,000	55,200	138,200	**2023**
2024	86,000	51,880	137,880	**2024**
2025	90,000	48,440	138,440	**2025**
2026	93,000	44,840	137,840	**2026**
2027	97,000	41,120	138,120	**2027**
2028	101,000	37,240	138,240	**2028**
2029	105,000	33,200	138,200	**2029**
2030	109,000	29,000	138,000	**2030**
2031	114,000	24,640	138,640	**2031**
2032	118,000	20,080	138,080	**2032**
2033	123,000	15,360	138,360	**2033**
2034	128,000	10,440	138,440	**2034**
2035	133,000	5,320	138,320	**2035**
Total	**$ 1,537,000**	**$ 536,640**	**$ 2,073,640**	

APPENDIX H: CALCULATION OF THE IMPACT FEE PER ACRE

TABLE H.1: IMPACT FEE CALCULATION

Component	Total Cost to Component	% That will Serve Ten Year Demand	Dollar Amount that will Serve Ten Year Demand	Ten Year Demand (Irrigated Acres)	Cost per Irrigated Acre
Storage Impact Fee					
Future 10 Year Capital Projects	$ 2,624,076	33%	$ 858,789	244	$ 3,520
Future Storage Related Debt to be Issued - INTEREST ONLY	346,019	33%	113,243	244	464
Existing Storage Projects	9,877,766	8.54%	844,026	244	3,459
Existing Storage Related Debt - INTEREST ONLY	1,037,588	8.54%	88,659	244	363
Storage Subtotal	**$ 13,885,449**		**$ 1,904,716**		**$ 7,806.21**
Distribution Impact Fee					
Future 10 Year Capital Projects	$ 664,769	24.80%	$ 164,830	244	$ 676
Future Distribution Related Debt to be Issued - INTEREST ONLY	190,621	24.80%	47,265	244	194
Existing Distribution Projects	1,770,947	5.59%	98,995	244	406
Existing Distribution Related Debt - INTEREST ONLY	215,398	5.59%	12,041	244	49
Distribution Subtotal	**$ 2,841,735**		**$ 323,131**		**$ 1,324.31**
Other Impact Fee					
Future 10 Year Capital Projects	$ 48,200	100%	$ 48,200	244	$ 198
Future Other Related Debt to be Issued - INTEREST ONLY	-	100%	-	244	-
Existing Other Projects	-	0.00%	-	244	-
Existing Other Related Debt - INTEREST ONLY	-	0.00%	-	244	-
Other Subtotal	**$ 48,200**		**$ 48,200**		**$ 197.54**
Professional Services/ Credits					
Unspent Impact Fee Funds	-	0.00%	$ -	244	$ -
Professional Services/ Credits	-	0%	-	244	-
Professional Services/Credits Subtotal	-		-		-
Total Impact Fee Per Acre	**$ 16,775,384**		**$ 2,276,047**		**$ 9,328.06**

Appendix I: Pressurized Irrigation Impact Fees

Table I.1: Pressurized Irrigation Impact Fee

Lot Size	Acreage	% Irrigable	Proposed Fee
1/4 Acres	0.25	0.38	$ 886
1/2 Acres	0.5	0.38	1,772
3/4 Acres	0.75	0.38	2,658
1 Acres	1	0.38	3,545
1 1/2 Acres	1.5	0.38	5,317
		Fee per Acre	$ 9,328.06

TABLE I.2: NON-STANDARD IMPACT FEE CALCULATION

Non-Standard Users Impact Fee Formula
Step 1: Identify Estimated Total Acreage of Proposed Development
Step 2: Multiply Total Acreage by the Percentage to be Irrigated
Step 3: Multiply Irrigated Acreage by Impact Fee per Acre of $9,328.06

PRESSURIZED IRRIGATION
IMPACT FEE FACILITY PLAN SUMMARY

The purpose of the Pressurized Irrigation Impact Fee Facilities Plan ("IFFP") –, with supporting Impact Fee Analysis ("IFA"), is to fulfill the requirements established in Utah Code Title 11 Chapter 36a, the "Impact Fees Act," and assist the Highland City (the "City") plan necessary capital improvements for future growth. The IFFP addresses only the future Pressurized Irrigation infrastructure needed to serve the City through the next ten years, and to maintain the existing level of service ("LOS") with the added demands of new development.

The Plans summarize the following:

- Identify the LOS for the Pressurized Irrigation system
- Demands placed upon the existing Pressurized Irrigation facilities by new development
- The proposed facilities by which the City will meet these demands

The following summarizes the plan:

Existing System and Level of Service

The existing Pressurized Irrigation System is comprised of a pipe network, water storage ponds and water supply sources. The system is independent from the Drinking Water System.

The existing LOS for the Pressurized Irrigation system was determined during the Master Planning process developed in 2009. The LOS for an irrigated acre is shown in Table S-1.

Table S-1: Level of Service Comparison (Per Irrigated Acre)

Attribute	LOS
Peak Day Demand	5.29 gpm/irrigated acre
Peak Instantaneous Demand	12.74 gpm/irrigated acre
Minimum Storage	8,500 gallons/irrigated acre
Water Connection Pressure Range	50 psi – 120 psi
Maximum Connection Pressure Change	30 psi

An existing system analysis was performed using the LOS demands to identify remaining capacity in the system. The distribution system, pump stations and northwest pond were found to have additional capacity for future growth.

Facilities Required For New Growth

Future demands on the system were based on the growth projections. A new secondary source of water and transmission lines were identified for the undeveloped State Developmental Center properties. New storage pond expansions were identified to provide for new development over the next 10 years.

The IFFP included only projects that are required for new development over the next 10 years. Those projects are listed below. The total amount for secondary impact fee facilities listed in Table S-2 is $2,624,997 in 2015 dollars.

TABLE S-2: IMPACT FEE FACILITIES FOR UPCOMING 10-YEARS

TYPE	PROJECTED YEAR	RECOMMENDED PROJECT	TOTAL COST EST.
Distribution – Growth Project	YEAR 6-10	Portion of Master Plan #12 Project – Provide a new connection to the CUP pipeline at 4800 West. The connection will provide water to new growth in the lower zone without pumping. (The Master Plan project included a new pump station which was not included in the IFFP).	$272,550
Distribution – Growth Project	YEAR 6-10	Master Plan #13 Project – Provide a new PRV Station at 10100 North and extend a new 10-inch pipeline to growth area in the southeast corner of the City.	$249,952
Storage – Growth Project	YEAR 6-10	Upper Pond Storage Expansion – Expand the Upper Pond by adding 11.5 acre*feet of capacity to meet future growth at LOS.	$1,437,500
Storage – Existing Deficiency & Growth Project	YEAR 3-5	Lower Pond Storage Expansion – Expand the Lower Pond by adding 5.0 acre*feet of capacity to meet future growth at LOS and existing storage deficiency.	$625,000
		TOTAL	**$2,624,997**

PRESSURIZED IRRIGATION IMPACT FEE FACILITY PLAN

(HAL Project No.: 314.15.200)

April 2015

HIGHLAND CITY

PRESSURIZED IRRIGATION IMPACT FEE FACILITY PLAN

(HAL Project No.: 314.15.200)

Tavis B. Timothy, P.E.
Project Engineer

HANSEN ALLEN & LUCE inc
ENGINEERS

April 2015

CERTIFICATION OF IMPACT FEE FACILITY PLAN

I certify that, to the best of my knowledge, the attached impact fee facilities plan:

1. includes only the costs of public facilities that are:
   a. allowed under the Impact Fees Act; and
   b. actually incurred; or
   c. projected to be incurred or encumbered within six years after the day on which each impact fee is paid;
2. does not include:
   a. costs of operation and maintenance of public facilities;
   b. costs for qualifying public facilities that will raise the level of service for the facilities, through impact fees, above the level of service that is supported by existing residents;
   c. an expense for overhead, unless the expense is calculated pursuant to a methodology that is consistent with generally accepted cost accounting practices and the methodological standards set forth by the federal Office of Management and Budget for federal grant reimbursement; and
3. complies in each and every relevant respect with the Impact Fees Act.

Prepared by: _____
Tavis B. Timothy, P.E.

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IMPACT FEE FACILITY PLAN

EXECUTIVE SUMMARY

The purpose of this Impact Fee Facility Plan (IFFP) is to provide direction to Highland City regarding pressurized irrigation facilities required for future growth within the next ten years.

Highland City provides irrigation water to its residents through a city-wide pressurized irrigation system. Construction of the system began in 1997. Improvements to the system have been constructed to accommodate growth over the past seventeen years.

Data from the 2009 Pressurized Irrigation System Master Plan and additional data, provided by the City, is the basis for the IFFP. The IFFP considers growth over the next ten years (2015-2024) and does not include the facilities required for growth beyond 2024.

During the preparation of the IFFP, existing and proposed levels of service were determined for distribution, storage and source of the Pressurized Irrigation system (see Table 2) for a single irrigated acre. In each case, it was determined that the proposed level of service should be the same as the existing level of service.

Impact Fees for the Pressurized Irrigation system will be uniform per irrigated acre across the impact fee area. The impact fee facility plan projected costs totaling $2,624,997.50.

PURPOSE AND BACKGROUND

The purpose of this Impact Fee Facility Plan (IFFP) is to provide direction to Highland City regarding pressurized irrigation facilities required for growth within the next ten years.

Highland City is located on a bench near American Fork, Lehi, and Alpine in northern Utah County. According to City information the Pressurized Irrigation System provides service to a population of approximately 17,090 residents.

EXISTING SYSTEM DESCRIPTION

Highland City owns, operates, and maintains the Pressurized Irrigation system. The Pressurized Irrigation system provides outdoor water for irrigating landscaped areas and gardens.

Highland City provides pressurized irrigation water to residents within the City Limits of Highland. Construction on the Highland Pressurized Irrigation (PI) System began in 1997. The PI system contains over 80 miles of pipe ranging between 2 and 30 inches in diameter. The Highland City Secondary Water System relies on 8 different sources for its water.

HAL completed a Pressurized Irrigation System Master Plan for Highland City in 2009 (HAL 2009). Information from the master plan was used in conjunction with data from Highland City to create this impact fee facility plan.

GROWTH

The 2009 Pressurized Irrigation System Master Plan estimated the build out irrigated acres based on zoning for anticipated developed areas. For the purpose of this IFFP it was assumed that the growth in irrigated acres will match the growth in population projections. This assumption allows irrigated acres per ERC to be calculated. 2014 population was estimated using data provided by Highland City. Population and ERC projections were estimated using the Governor's Office of Management and Budget Projections (GOMB 2013). A review of typical R-1-40 developments and the 2009 Master Plan provided an average irrigated acreage per lot equal to 0.38 acres. It is recommended for non-R-1-40 developments that actual irrigated acreage be calculated during the Plat Approval Process.

Table 1
Growth Projections

Characteristic	2009	2015	2020	2024	2053 Build-out
Irrigated Acres	1,489	1,594	1,730	1,838	2,564

LEVEL OF SERVICE

The level of service is the "defined performance standard or unit of demand for each capital component of a public facility within a service area" according to the Utah Impact Fees Act (Utah Division of Administrative Rules 2011). The service area for the level of service in this plan is the City Boundary including areas expected to be annexed into the City.

There are three components to Highland City's secondary water system that were analyzed: source, distribution, and storage. The existing and proposed levels of service for each component of the secondary system were determined. Generally, the existing level of service matches the proposed level of service. Impact fees may not be used to pay for any services above the existing level of service.

The level of service was based on the Pressurized Irrigation System Master Plan (HAL 2009). Although the master plan was completed in 2009, the level of service is not expected to have significantly changed since the master plan was completed.

Source and Pumping

The existing level of service for the system's sources and pump stations (that pump into a pond) was based on the findings in the Consumptive Use of Irrigated Crops in Utah report (Hill 1998) and a review of source records during the Master Plan development. The peak day demand is used to determine the source requirement for a system. The 2009 Master Plan determined that the level of service for peak day demands is 5.29 gpm per irrigated acre.

Distribution

The level of service for a distribution system is limited by the peak instantaneous demand. The required peak instantaneous demand determined in the Master Plan is 12.74 gpm per irrigated acre. The peak instantaneous demand is also utilized in the capacity determination for pump stations that do not pump into a pond.

As part of the Mater Planning effort in 2009, a hydraulic model was created to determine the effect the demands have on the distribution system. The level of service determined for operations was to maintain pressures between 50 psi and 120 psi.

Storage

The level of service for storage has been developed to provide the average day use for the system. This level of service for storage also matches the most recently constructed northwest pond's capacity for the buildout projection. The storage requirement is 8,500 gallons per irrigated acre for the entire service area.

Summary

Table 2 shows the determined level of service for existing and future irrigated acres.

Table 0
Level of Service Summary

Attribute	LOS
Peak Day Demand	5.29 gpm/irrigated acre
Peak Instantaneous Demand	12.74 gpm/irrigated acre
Minimum Storage	8,500 gallons/irrigated acre
Water Connection Pressure Range	50 psi – 120 psi
Maximum Connection Pressure Change	30 psi

EXCESS CAPACITY

The existing system has excess capacity within its storage, sources and distribution facilities to provide new growth with pressurized Irrigation. The only storage component that has excess capacity is the northwest pond. Only costs incurred to create the existing system, which was paid for by the City, can be included in impact fees. Actual water rights or shares are provided to the City during the development process and are not included in the impact fees.

Storage

Saratoga Springs currently operates three water storage ponds serving the City. Storage requirements are determined on a per irrigable acre basis. The total storage capacity is 50.4 acre-feet. All ponds were constructed since 1997 and are in good condition.

The capacity of each pond was analyzed in respect to the zone it serves. The storage was analyzed as requiring 8,500 gallons per irrigable acre. Table 3 summarizes the storage facility information and Table 4 summarizes the excess storage capacity by Zone. The Upper/Lower storage ponds do not have existing capacity, but the northwest pond has sufficient excess capacity to build out conditions.

Table 3
Existing Storage Pond Summary

Service Zone	Pond ID	Volume (Ac-ft)
Upper/Lower	Upper Pond	26
Upper/Lower	Lower Pond	5.4
Northwest	Northwest Pond	19
Total		44.7

Table 4
Excess Storage Summary

Service Zone	Existing Volume (Ac-ft)	Existing Storage Demand (Ac-ft)	Existing Excess Capacity (Ac-ft)	2024 Storage Demand (Ac-ft)	Buildout Storage Demand (Ac-ft)
Upper/Lower	31.4	35.5	-4.1	40.9	48.6
Northwest	19.0	6.0	13.0	6.9	18.2
Total	50.4	41.5	N/A	47.8	66.8

Source and Pump Stations

The system's secondary water sources are provided by groundwater wells and irrigation shares. An extensive list is described in the 2009 Master Plan. The City sources and pump stations have excess capacity for growth projected in the next ten years. A table of the pump station capacities is shown in Table 5.

Table 5
Pump Station Capacity Summary

Pump Station	Pressure Zones Served	Capacity	Critical Demand	
		(gpm)	Existing gpm	Future gpm
Upper	Upper Pressure Zone	6,000	Peak Instantaneous	
			3,577	6,014
11800 North	Northwest Area	2,800	Peak Day	
			1,125	3,700
Hog Hollow	Hog Hollow above Northwest Zone	690	Peak Instantaneous	
			217	556

Distribution System

Pipe diameters range from 4-inches to 30-inches, with the majority being 8 inches within the individual subdivision developments. The larger pipes in the system were provided as transmission lines to deliver water from storage ponds during peak scenarios and to deliver water from sources. All pipes are in good condition as they have been constructed since 1997. The Master Plan provided that there is excess capacity in the Distribution System for new growth through build out conditions.

FUTURE FACILITIES

Data for the proposed distribution projects and their associated costs were provided within the 2009 Master Plan and recent storage planning efforts. Storage projects were determined by the City to meet the LOS. The projects were estimated to be completed in the next ten years. The distribution projects are those required to increase the capacity of the distribution system in order to serve the future growth. Table 3 provides a summary of the recommended facilities.

Table 6
Recommended Future Facilities

TYPE	PROJECTED YEAR	RECOMMENDED PROJECT	TOTAL COST EST.
Distribution – Growth Project	YEAR 6-10	Portion of Master Plan #12 Project – Provide a new connection to the CUP pipeline at 4800 West. The connection will provide water to new growth in the lower zone without pumping. (The Master Plan project included a new pump station which was not included in the IFFP).	$272,550
Distribution – Growth Project	YEAR 6-10	Master Plan #13 Project – Provide a new PRV Station at 10100 North and extend a new 10-inch pipeline to growth area in the southeast corner of the City.	$249,952
Storage – Growth Project	YEAR 6-10	Upper Pond Storage Expansion – Expand the Upper Pond by adding 11.5 acre*feet of capacity to meet future growth at LOS.	$1,437,500
Storage – Existing Deficiency & Growth Project	YEAR 3-5	Lower Pond Storage Expansion – Expand the Lower Pond by adding 5.0 acre*feet of capacity to meet future growth at LOS and existing storage deficiency.	$625,000
		TOTAL	**$2,624,997**

IMPACT FEE FACILITY PLAN

Impact Fees for the City Pressurized Irrigation system will be uniform per each irrigable acre across the service area. Table 4 contains the City's 2015-2024 Impact Fee Facility Plan. Each project is listed with the estimated cost in 2015 dollars. All of the projects are planned only for the ERCs in the service area. The impact fee facility plan projects total $2,624,997.

Table 7
Impact Fee Facility Plan

Project	Cost Attributed to System Deficiencies	Cost Attributed to Growth for Next 10 Yrs	Cost Attributed to Buildout Growth
Master Plan Project #12	$0	$67,579.18	$204,970.82
Master Plan Project #13	$0	$61,946.09	$187,976.41
Upper Pond Expansion of 11.5 Acre*Feet	$0	$562,500.00	$875,000.00
Lower Pond Expansion of 5 Acre*Feet	$512,500.00	$112,500.00	$0
Master Plan and IFFP	$0	$39,995.00	$0
Overall Total	**$512,500.00**	**$844,550.27**	**$1,267,947.23**

REVENUE OPTIONS

Revenue options for the recommended projects, in addition to use fees, could include the following options: general obligation bonds, revenue bonds, State/Federal grants and loans, and impact fees. In reality, the City may need to consider a combination of these funding options. The following discussion describes each of these options.

General Obligation Bonds through Property Taxes

This form of debt enables the City to issue general obligation bonds for capital improvements and replacement. General Obligation (G.O.) Bonds would be used for items not typically financed through the Water Revenue Bonds (for example, the purchase of water source to ensure a sufficient water supply for the City in the future). G.O. bonds are debt instruments backed by the full faith and credit of the City which would be secured by an unconditional pledge of the City to levy assessments, charges or ad valorem taxes necessary to retire the bonds. G.O. bonds are the lowest-cost form of debt financing available to local governments and can be combined with other revenue sources such as specific fees, or special assessment charges to form a dual security through the City's revenue generating authority. These bonds are supported by the City as a whole, so the amount of debt issued for the water system is limited to a fixed percentage of the real market value for taxable property within the City. For growth related projects this type of revenue places an unfair burden on existing residents as they had previously paid for their level of service.

Revenue Bonds

This form of debt financing is also available to the City for utility related capital improvements. Unlike G.O. bonds, revenue bonds are not backed by the City as a whole, but constitute a lien against the water service charge revenues of a Water Utility. Revenue bonds present a greater risk to the investor than do G.O. bonds, since repayment of debt depends on an adequate revenue stream, legally defensible rate structure /and sound fiscal management by the issuing

jurisdiction. Due to this increased risk, revenue bonds generally require a higher interest rate than G.O. bonds, although currently interest rates are at historic lows. This type of debt also has very specific coverage requirements in the form of a reserve fund specifying an amount, usually expressed in terms of average or maximum debt service due in any future year. This debt service is required to be held as a cash reserve for annual debt service payment to the benefit of bondholders. Typically, voter approval is not required when issuing revenue bonds. For growth related projects this type of revenue places an unfair burden on existing residents as they had previously paid for their level of service.

State/Federal Grants and Loans

Historically, both local and county governments have experienced significant infrastructure funding support from state and federal government agencies in the form of block grants, direct grants in aid, interagency loans, and general revenue sharing. Federal expenditure pressures and virtual elimination of federal revenue sharing dollars are clear indicators that local government may be left to its own devices regarding infrastructure finance in general. However, state/federal grants and loans should be further investigated as a possible funding source for needed water system improvements.

It is also important to assess likely trends regarding federal / state assistance in infrastructure financing. Future trends indicate that grants will be replaced by loans through a public works revolving fund. Local governments can expect to access these revolving funds or public works trust funds by demonstrating both the need for and the ability to repay the borrowed monies, with interest. As with the revenue bonds discussed earlier, the ability of infrastructure programs to wisely manage their own finances will be a key element in evaluating whether many secondary funding sources, such as federal/state loans, will be available to the City.

Impact Fees

An impact fee is a one-time charge to a new development for the purpose of raising funds for the construction of improvements required by the new growth and to maintain the current level of service. Impact fees in Utah are regulated by the Impact Fee Statute and substantial case law. Impact fees are a form of a development exaction that requires a fee to offset the burdens created by the development on existing municipal services. Funding the future improvements required by growth through impact fees does not place the burden on existing residents to provide funding of these new improvements.

User Fees

Similar to property taxes on existing residents, User Fees to pay for improvements related to new growth related projects places an unfair burden on existing residents as they had previously paid for their level of service.

REFERENCES

Hansen, Allen, & Luce, Inc. 2012. *Highland City Pressurized Irrigation System Master Plan.* Midvale, UT: Hansen, Allen, & Luce, Inc.

Utah Division of Administrative Rules. 2011. *Utah Administrative Code, Title 11 36a Impact Fees Act*. The Department of Administrative Services.